

Historic, Archive Document

Do not assume content reflects current scientific knowledge, policies, or practices.

5

2TS1577
A3652
Cap. 2

REPORT NO. 12

Cotton Fiber and Processing Test Results

CROP of 1973



**Agricultural Marketing Service
U.S. DEPARTMENT OF AGRICULTURE
Memphis, Tenn. 38122 February 1, 1974**

This is the twelfth, and last, report on fiber and processing test results on the 1973 cotton crop. These reports were issued twice each month during the harvesting season, and will be summarized in a comprehensive report to be issued in early spring. This 1973 group of reports gives data on the same subject as "Summary of Cotton Fiber and Processing Test Results, Crop of 1972", May 1973. These reports are published by the Standardization Section, Cotton Division, Agricultural Marketing Service, U. S. Department of Agriculture, 4841 Summer Avenue, Memphis, Tn. 38122.

COTTON FIBER AND PROCESSING TEST RESULTS, CROP OF 1973

Discussion of Test Results

Cotton testing laboratories of the Agricultural Marketing Service, USDA, report that fibers from the Southwest short staple samples tested to date are shorter, coarser and stronger than through the comparable period last year. Yarns spun from these samples show lower appearance grades and fewer yarn imperfections than a year ago. Average spinning potential yarn number is lower.

Averages for all medium staple samples tested through January 25, 1974 show slightly weaker fiber than a year ago. Yarns spun from these samples show lower appearance grades.

Medium staple samples tested from the Southeast show coarser and weaker fiber strength at 1/8" gage tests. Shirley Analyzer nonlint content is higher than a year ago. Yarns spun from these samples show more imperfections and have a lower spinning potential yarn number than a year ago.

Medium staple samples tested from the South Central show longer, coarser and weaker fibers than a year ago. Yarns spun from these samples show about the same average results as a year ago except for a slightly lower spinning potential number.

Medium staple samples from the Southwest show approximately the same fiber qualities as a year ago except for a slightly coarser fiber. Both Shirley Analyzer nonlint content and picker and card waste are less than a year ago. Yarns spun from these samples show lower appearance grades and fewer imperfections. Average spinning potential yarn number is lower.

Medium staple samples from the West show stronger fiber than a year ago. Yarns spun from these samples are stronger. Yarn appearance grades are lower than a year ago.

Averages for all long staple samples tested to date are shorter, coarser and weaker at zero gage tests than a year ago. Yarns spun from these samples show higher appearance grades and fewer imperfections.

Southeast long staple samples tested show a higher uniformity, also coarser and weaker fibers than last season. Yarns spun from these samples show a higher appearance index than last season. Yarn imperfections are fewer. Average spinning potential is lower than a year ago.

Long staple samples from the South Central tested this season show shorter, coarser and weaker fibers. Comber waste is higher. Yarns spun from these tests are weaker than a year ago. Yarn appearance grades are higher and combed yarn imperfections are less this season. Average spinning potential yarn number is lower.

Long staple samples from the West show shorter and stronger fibers than last season. Yarns spun from these samples are stronger, with higher appearance grades. Yarn imperfections are fewer than last season.

Extra long staple American Pima samples from the West show fiber longer and stronger than a year ago. Both total nonlint and comber waste are higher this year. Yarns spun from these samples are stronger and have higher appearance grades and fewer imperfections than a year ago.

Table 1.--Cotton: Averages of fiber and processing tests from selected gin points in the United States
through January 25, 1974
1/

| Staple group Area, and Crop year | Lots tested | Fiber test results | | | | | | Processing test results | | | | | | | | | |
|--|----------------|--------------------|-----------------|-----------------------|----------------|------|----------------|-------------------------|--------------|-------|------------------|------|------|-------|-----|--------|----------|
| | | Fibrograph | | Mike fine- ness | Fiber strength | | S A nonlint | P & C waste | Yarn quality | | Spin. Potent. | | | | | | |
| | | 2.5% span | 50/2.5 unif. | | Pct. | Rdg. | | | Mpsi | G/tex | | Pct. | Lbs. | Index | No. | | |
| | | | | | | | | | | | | | | | | Inches | Yarn No. |
| | | | | | | | | | | | | | | | | | |
| <u>Port Staple:</u> | | | | | | | | | | | | | | | | | |
| Southwest | | | | | | | | | | | | | | | | | |
| 1972 | 53 | .98 | 45 | 4.1 | 80 | 21 | 3.6 | 6.7 | 94 | 117 | 27 | 46 | | | | | |
| 1973 | 65 | .96 | 46 | 4.5 | 83 | 21 | 3.3 | 6.3 | 91 | 109 | 16 | 42 | | | | | |
| <u>Medium Staple:</u> | | | | | | | | | | | | | | | | | |
| Southeast | | | | | | | | | | | | | | | | | |
| 1972 | 61 | 1.08 | 45 | 4.3 | 83 | 23 | 3.0 | 6.2 | 104 | 104 | 16 | 66 | | | | | |
| 1973 | 57 | 1.08 | 46 | 4.5 | 82 | 22 | 3.6 | 6.0 | 101 | 105 | 21 | 61 | | | | | |
| <u>South Central</u> | | | | | | | | | | | | | | | | | |
| 1972 | 160 | 1.08 | 45 | 4.3 | 83 | 23 | 2.8 | 6.2 | 102 | 109 | 19 | 64 | | | | | |
| 1973 | 167 | 1.10 | 45 | 4.5 | 81 | 22 | 3.1 | 5.8 | 101 | 107 | 19 | 61 | | | | | |
| <u>Southwest</u> | | | | | | | | | | | | | | | | | |
| 1972 | 49 | 1.06 | 45 | 4.1 | 82 | 22 | 3.5 | 6.6 | 100 | 113 | 28 | 60 | | | | | |
| 1973 | 50 | 1.07 | 45 | 4.3 | 82 | 22 | 3.0 | 5.7 | 98 | 97 | 23 | 57 | | | | | |
| <u>West</u> | | | | | | | | | | | | | | | | | |
| 1972 | 60 | 1.09 | 45 | 4.4 | 90 | 24 | 2.6 | 5.5 | 110 | 121 | 17 | 66 | | | | | |
| 1973 | 68 3/4 | 1.10 | 45 | 4.3 | 91 | 25 | 2.4 | 5.2 | 116 | 101 | 17 | 66 | | | | | |
| <u>U. S. Average</u> | | | | | | | | | | | | | | | | | |
| 1972 | 330 | 1.08 | 45 | 4.3 | 85 | 23 | 3.0 | 6.1 | 104 | 112 | 20 | 64 | | | | | |
| 1973 | 342 | 1.09 | 45 | 4.4 | 84 | 22 | 3.1 | 5.7 | 104 | 104 | 20 | 62 | | | | | |
| <u>Significant difference 2/</u> | | | | | | | | | | | | | | | | | |
| | | 0.02 | 2 | 0.2 | 2 | 1 | 0.5 | 0.5 | 4(22s) | 5 | 2 | 3 | | | | | |

1/ Based on a limited number of samples of modal quality

2/ Minimum differences considered to be significant for comparisons in this table. These guides are based upon averages of a number of lots and are not applicable to individual samples.

3/ Corrected averages

Table 1.--Cotton:

Averages of fiber and processing tests from selected gin points in the United States
through January 25, 1974
1/ (Continued)

| Staple group, Area, and Crop year | Lots | Fiber Test Results | | | | | Processing Test Results | | | | | | | | | | | |
|---|------|--------------------|------|------|------|------|-------------------------|--------------------|--------------|--------|-----------------|--------------------------|--------------|--------------------|----------------------|-----|-------------------|--------|
| | | Length | | Mike | Rdg. | Mpsi | G/tx | SA Non- lint | P&C Waste | Pct. | Comber Waste | Yarn Quality | | | | SPY | | |
| | | Span | Unif | | | | | | | | | Strength Zero gage | 1/8" gage | Strength carded | Appearance carded | | Imprfctns card | combed |
| | | | | | | | | | | | | | | | | | | |
| No. | In. | Pct. | Pct. | Pct. | Pct. | Lbs. | Lbs. | Indx | Indx | Indx | No. | No. | No. | No. | No. | | | |
| 22s Carded & Combed Yarn | | | | | | | | | | | | | | | | | | |
| Long Staple: | | | | | | | | | | | | | | | | | | |
| Southeast | | | | | | | | | | | | | | | | | | |
| 1972 | 19 | 1.12 | 43 | 4.3 | 85 | 24 | 3.6 | 8.5 | 16.9 | 106 | 123 | 102 | 117 | 24 | 10 | | | |
| 1973 | 18 | 1.12 | 45 | 4.6 | 81 | 23 | 3.9 | 8.7 | 17.0 | 103 | 119 | 117 | 124 | 14 | 7 | | | |
| South Central | | | | | | | | | | | | | | | | | | |
| 1972 | 4 | 1.16 | 44 | 4.0 | 88 | 24 | 4.2 | 8.8 | 16.0 | 116 | 131 | 100 | 110 | 20 | 11 | | | |
| 1973 | 7 | 1.14 | 44 | 4.3 | 85 | 24 | 4.3 | 8.8 | 17.3 | 108 | 126 | 114 | 126 | 20 | 9 | | | |
| West | | | | | | | | | | | | | | | | | | |
| 1972 | 15 | 1.17 | 44 | 3.6 | 91 | 25 | 2.5 | 7.2 | 15.6 | 126 | 145 | 91 | 100 | 26 | 13 | | | |
| 1973 | 15 | 1.15 | 45 | 3.6 | 91 | 27 | 2.7 | 7.6 | 15.7 | 132 | 150 | 95 | 106 | 19 | 10 | | | |
| U. S. Average | | | | | | | | | | | | | | | | | | |
| 1972 | 38 | 1.15 | 44 | 4.0 | 88 | 24 | 3.3 | 8.0 | 16.2 | 115 | 133 | 98 | 109 | 24 | 11 | | | |
| 1973 | 40 | 1.13 | 45 | 4.2 | 86 | 24 | 3.5 | 8.3 | 16.6 | 115 | 132 | 108 | 118 | 17 | 9 | | | |
| 50's Combed Yarn | | | | | | | | | | | | | | | | | | |
| American Pima | | | | | | | | | | | | | | | | | | |
| Extra Long Staple: | | | | | | | | | | | | | | | | | | |
| West | | | | | | | | | | | | | | | | | | |
| 1972 | 21 | 1.44 | 32 | 3.6 | 97 | 32 | 2.7 | 7.9 | 17.7 | 63 | 63 | 113 | 118 | 3 | 3 | | | |
| 1973 | 20 | 1.46 | 31 | 3.7 | 101 | 34 | 3.4 | 8.1 | 18.4 | 67 | 67 | 118 | 118 | 1 | 1 | | | |
| Significant Difference 2/ | | | | | | | | | | | | | | | | | | |
| | 0.02 | 2 | 0.2 | 2 | 1 | 0.5 | 0.5 | 0.5 | 0.5 | 4(22s) | 4(22s) | 5 | 5 | 2 | 2 | | | |
| | | | | | | | | | | | | | | | 3 | | | |

1/ Based on a limited number of samples of modal quality

2/ Minimum differences considered to be significant for comparisons in this table. These guides are based upon averages of a number of lots and are not applicable to individual samples.

Table 2 --Cotton, American upland short staple: Quality characteristics by production areas, crop of 1973

| Production Area, Classification Sample Number | | | | Fiber Test Results | | | | | | | | | | Processing Test Results - Carded Yarns | | | | | | | | | |
|---|-------|-------|-------|--------------------|------|------|----------------|--------------|------------------------|----------------------|----|--------------------|-----|--|----------------|----------------|----------------|-----------------|---------------------|----------------|----------------|----------------|-------------------------|
| | | | | Digital Fibrograph | | Mike | Fiber Strength | | Elon- gat'n 1/8" | S.A. Non- lint | | Color Raw Stock | | P & C Waste | Strength | | Elongation | | Appearance Index | | Imprfct'ns | | Spin. Poten- tial |
| | | | | 2.5% span | Unif | | Zero Gage | 1/8" Gage | | Pet | No | Gra | Yel | | 8s or 74 tx | 22sor 27 tx | 8s or 74 tx | 22s or 27 tx | 8s or 74 tx | 22sor 27 tx | 8s or 74 tx | 22sor 27 tx | |
| No | Grade | Stple | 32s • | In | Pet | Rdg | Mpsi | G/tex | Pet | Pet | No | No | No | Pct | Lbs | Lbs | Pct | Pct | No | No | No | No | No |

SOUTHWEST AREA

NORTHWEST TEXAS

EDMONSON

3 SLM LT SP 42 30 0.91 48 3.9 79 22 7.0 STRIPPER 31 3.2 3 4 6.4 284 91 8.0 6.7 130 110 22 17 40

HALE CENTER

3 MID 31 30 0.88 47 4.9 80 19 6.3 PAYMASTER 18 3.4 2 3 5.1 258 76 7.2 5.3 130 120 12 12 31

PADUCAH

2 MID LT SP 32 32 0.98 45 4.7 75 20 7.5 LANKART 57 3.9 3 4 4.9 288 89 8.4 6.9 120 100 27 20 47

3 MID LT SP 32 31 0.99 45 4.1 77 21 7.4 2.7 2 4 5.7 283 88 7.9 6.8 120 110 21 15 44

TULIA

3 MID LT SP 32 29 0.87 47 4.2 79 21 6.9 STRIPPER 31 3.8 2 4 6.5 260 74 7.5 5.9 120 110 18 14 28

1/ Cotton stuck to processing rolls

Table 3 --Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1973

| Production Area, Classification & Sample Number | | | | Fiber Test Results | | | | | | | | | | Processing Test Results - Carded Yarns | | | | | | | | | |
|---|-------|-------|-------------|--------------------|-------|------|----------------|-----------|------------------|----------------|-----------------|-----|-------------|--|--------------|--------------|--------------|------------------|--------------|--------------|--------------|-------------------|----|
| No | Grade | Stple | Name & Code | Digital Fibrograph | | Mike | Fiber Strength | | Elon- gat'n 1/8" | S.A. Non- Lint | Color Raw Stock | | P & C Waste | Strength | | Elongation | | Appearance Index | | Imprfect'ns | | Spin. Poten- tial | |
| | | | | 2.5% span | Unif. | | Zero Gage | 1/8" Gage | | | Gra | Yel | | 22s or 27 tx | 50s or 12 tx | 22s or 27 tx | 50s or 12 tx | 22s or 27 tx | 50s or 12 tx | 22s or 27 tx | 50s or 12 tx | | |
| 32s | | | | In | Pct | Rdg | Mpsi | G/tex | Pct | Pct | No | No | Pct | Lbs | Lbs | Pct | Pct | No | No | No | No | No | |
| SOUTHEAST AREA | | | | | | | | | | | | | | | | | | | | | | | |
| ALABAMA | | | | | | | | | | | | | | | | | | | | | | | |
| CURA | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | LM | | 51 | 34 | 1.07 | 46 | 4.7 | 73 | 19 | 6.8 | 4.5 | 4 | 2 | 9.3 | 88 | 26 | 6.2 | 4.2 | 110 | 70 | 14 | 12 | 59 |
| PRATTVILLE | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | LM | | 51 | 35 | 1.10 | 43 | 3.4 | 80 | 24 | 6.3 | 4.6 | 3 | 2 | 5.8 | 112 | 37 | 6.3 | 4.7 | 90 | 70 | 28 | 20 | 67 |
| TUSKEGEE | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | SLM | | 41 | 34 | 1.08 | 45 | 4.6 | 78 | 22 | 6.6 | 3.5 | 2 | 2 | 5.4 | 101 | 31 | 6.5 | 4.6 | 110 | 80 | 15 | 11 | 59 |
| SOUTH CENTRAL AREA | | | | | | | | | | | | | | | | | | | | | | | |
| ARKANSAS | | | | | | | | | | | | | | | | | | | | | | | |
| ALTHEIMER | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | SLM | | 41 | 35 | 1.14 | 45 | 3.6 | 80 | 23 | 8.2 | 4.3 | 1 | 2 | 5.8 | 119 | 42 | 7.8 | 5.8 | 100 | 70 | 20 | 17 | 72 |
| MISSISSIPPI | | | | | | | | | | | | | | | | | | | | | | | |
| TRIBBETT | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | LM | | 51 | 35 | 1.11 | 45 | 4.4 | 91 | 22 | 5.1 | 4.2 | 4 | 2 | 6.1 | 97 | 29 | 5.4 | 3.7 | 100 | 70 | 21 | 15 | 59 |

Table 4 --Cotton, American upland long staple: Quality characteristics by production areas, crop of 1973

| Production Area, Classification & Sample Number | | | | Fiber Test Results | | | | | | | | | | Processing Test Results - Carded Yarns | | | | | | | | | | Spin. Potential |
|---|-------|-------------|-------|--------------------|-------|------|----------------|-----------|-----------------|---------------|-----------------|-----|------------------------|--|--------------|--------------|--------------|------------------|--------------|--------------|--------------|----|-----|-----------------|
| No | Grade | Name & Code | Stple | Digital Fibrograph | | Mike | Fiber Strength | | Elon-gat'n 1/8" | S.A. Non-Lint | Color Raw Stock | | P & C and Comber Waste | Strength | | Elongation | | Appearance Index | | Imprfct'ns | | | | |
| | | | | 2.5% span | Unif. | | Zero Gage | 1/8" Gage | | | Gra | Yel | | 22s or 27 tx | 50s or 12 tx | 22s or 27 tx | 50s or 12 tx | 22s or 27 tx | 50s or 12 tx | 22s or 27 tx | 50s or 12 tx | | | |
| | | | | | | | | | | | | | | | | | | | | | | In | Pct | |
| SOUTHEAST AREA | | | | | | | | | | | | | | | | | | | | | | | | |
| ALABAMA | | | | | | | | | | | | | | | | | | | | | | | | |
| BELLEVILLE | | | | | | | | | | | | | | | | | | | | | | | | |
| 51 | 34 | | | 1.09 | 44 | 4.0 | 75 | 23 | 7.7 | 5.0 | 4 | 2 | 9.6 | 97 | 32 | 6.6 | 4.6 | 110 | 90 | 16 | 11 | 62 | | |
| 4 | LM | | | | | | | | | | | * | 17.6 | 114 | 39 | 7.2 | 5.3 | 130 | 100 | 6 | 4 | | | |
| 80 PERCENT | | | | | | | | | | | | | | | | | | | | | | | | |
| COKER 310 | | | | | | | | | | | | | | | | | | | | | | | | |
| SOUTH CENTRAL AREA | | | | | | | | | | | | | | | | | | | | | | | | |
| MISSISSIPPI | | | | | | | | | | | | | | | | | | | | | | | | |
| MORGAN CITY | | | | | | | | | | | | | | | | | | | | | | | | |
| 51 | 36 | | | 1.16 | 44 | 4.0 | 82 | 25 | 6.3 | 7.2 | 4 | 2 | 9.3 | 110 | 35 | 5.9 | 4.6 | 100 | 80 | 22 | 15 | 68 | | |
| 4 | LM | | | | | | | | | | | * | 17.6 | 126 | 45 | 6.4 | 5.2 | 120 | 90 | 10 | 7 | | | |
| 100 PERCENT | | | | | | | | | | | | | | | | | | | | | | | | |
| COKER 310 | | | | | | | | | | | | | | | | | | | | | | | | |
| WEST AREA | | | | | | | | | | | | | | | | | | | | | | | | |
| WEST TEXAS | | | | | | | | | | | | | | | | | | | | | | | | |
| DELL CITY | | | | | | | | | | | | | | | | | | | | | | | | |
| 31 | 35 | | | 1.07 | 43 | 3.0 | 79 | 22 | 6.7 | 3.8 | 0 | 3 | 7.8 | 105 | 34 | 6.5 | 4.8 | 90 | 70 | 23 | 19 | 64 | | |
| 3 | MID | | | | | | | | | | | * | 19.3 | 122 | 43 | 7.1 | 5.3 | 110 | 80 | 10 | 11 | | | |
| 80 PERCENT | | | | | | | | | | | | | | | | | | | | | | | | |
| ACALA 1517-C | | | | | | | | | | | | | | | | | | | | | | | | |

* Comber Waste and Combed Yarn Data

Table 5 --Cotton, American Pima extra long staple: Quality characteristics by production areas, crop of 1973

| Production Area, Classification & Sample Number | | | | Fiber Test Results | | | | | | | | | | Processing Test Results - Combed Yarns | | | | | | | | | | |
|---|-------|-------|-----|--------------------|----|------|----------------|----|----------------------|---------------|-----------------|------|-------------|--|------|-------------|----|------------|-----|------------------|-----|-------------|-----|----|
| No | Grade | Stple | 32s | Array Length | | Mike | Fiber Strength | | Elon-gat'n 1/8" Gage | S.A. Non-Lint | Color Raw Stock | | P & C Waste | Comber Waste | | Strength | | Elongation | | Appearance Index | | Imprfect'ns | | |
| | | | | UQL | CV | | Pct | In | | | Zero Gage | Mosi | | G/tex | Pct | Pct | No | Yel | Pct | Lbs | Pct | Lbs | Pct | No |
| WEST AREA | | | | | | | | | | | | | | | | | | | | | | | | |
| ARIZONA | | | | | | | | | | | | | | | | | | | | | | | | |
| SAFFORD | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | 44 | | | 1.45 | 30 | 3.4 | 105 | 34 | PIMA S-4 | 7.1 | 3.5 | 3 | 5 | 7.6 | 19.0 | 80 PERCENT | 71 | 39 | 5.4 | 5.0 | 110 | 110 | 2 | 1 |
| STANFIELD | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | 44 | | | 1.46 | 31 | 3.6 | 102 | 37 | PIMA S-4 | 6.8 | 2.4 | 3 | 5 | 7.6 | 15.7 | 100 PERCENT | 71 | 38 | 5.6 | 4.8 | 100 | 90 | 4 | 4 |
| NEW MEXICO | | | | | | | | | | | | | | | | | | | | | | | | |
| LAS CRUCES | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | 44 | | | 1.41 | 35 | 3.4 | 99 | 33 | PIMA S-4 | 7.3 | 3.7 | 5 | 6 | 8.9 | 18.9 | 80 PERCENT | 65 | 35 | 5.5 | 4.8 | 110 | 110 | 3 | 2 |
| WEST TEXAS | | | | | | | | | | | | | | | | | | | | | | | | |
| EL PASO | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | 44 | | | 1.45 | 33 | 3.1 | 103 | 33 | PIMA S-4 | 6.8 | 5.3 | 4 | 5 | 10.9 | 20.3 | 100 PERCENT | 67 | 36 | 5.4 | 4.8 | 100 | 100 | 3 | 1 |

1/ Cotton stuck to processing rolls

